	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition	Errors
1	BRS	L1	62	bifidogenic	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/10/05 16:33			0
2	BRS	L2	2	bifidogenic same peptide	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/10/05 16:33			0
3	BRS	L3	264	bifidobacterium adj bifidum	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/10/05 16:34			0
4	BRS	L4	3	(bifidobacterium adj bifidum) same peptide	USPAT; US-PGPUB; EPO; JPO; DERWENT	2002/10/05 16:34			0

=> d his

(FILE 'HOME' ENTERED AT 16:39:02 ON 05 OCT 2002)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT
16:39:25 ON 05 OCT 2002
L1 8 S BIFIDOGENIC (P) PEPTIDE
L2 3 DUPLICATE REMOVE L1 (5 DUPLICATES REMOVED)
L3 1836 S BIFIDOBACTERIUM BIFIDUM
L4 37 S L3 (P) PEPTIDE
L5 12 DUPLICATE REMOVE L4 (25 DUPLICATES REMOVED)
L6 12 S L5 NOT L2

=> log y

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FILE 'HOME' ENTERED AT 16:39:01 ON 05 OCT 2002

=> file medline caplus biosis embase scisearch agricola
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.21       0.21

FILE 'MEDLINE' ENTERED AT 16:39:25 ON 05 OCT 2002

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=> s bifidogenic (p) peptide
L1            8 BIFIDOGENIC (P) PEPTIDE

=> duplicate remove l1
DUPLICATE PREFERENCE IS 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH'
KEEP DUPLICATES FROM MORE THAN ONE FILE?  Y/(N):n
PROCESSING COMPLETED FOR L1
L2            3 DUPLICATE REMOVE L1 (5 DUPLICATES REMOVED)

=> d l2 1-3 ibib abs

L2   ANSWER 1 OF 3     MEDLINE                              DUPLICATE 1
ACCESSION NUMBER:    2002121041     MEDLINE
DOCUMENT NUMBER:     21845950   PubMed ID: 11856332
TITLE:               Human milk provides peptides highly stimulating the growth
                     of bifidobacteria.
AUTHOR:              Liepke Cornelia; Adermann Knut; Raida Manfred; Magert
                     Hans-Jurgen; Forssmann Wolf-Georg; Zucht Hans-Dieter
CORPORATE SOURCE:    IPF PharmaCeuticals GmbH, Hannover, Germany..
                     c.liepke@ipf-pharmaceuticals.de
SOURCE:              EUROPEAN JOURNAL OF BIOCHEMISTRY, (2002 Jan) 269 (2) 712-8.
                     Journal code: 0107600. ISSN: 0014-2956.
PUB. COUNTRY:        Germany: Germany, Federal Republic of
DOCUMENT TYPE:       Journal; Article; (JOURNAL ARTICLE)
LANGUAGE:            English
FILE SEGMENT:        Priority Journals
ENTRY MONTH:         200203
ENTRY DATE:          Entered STN: 20020222
                     Last Updated on STN: 20020320
                     Entered Medline: 20020319
AB   The large intestine of breast-fed infants is colonized predominantly by
     bifidobacteria, which have a protective effect against acute diarrhea. In
     this study we report for the first time the identification of human milk
       ***peptides***   that selectively stimulate the growth of bifidobacteria.
     Several   ***bifidogenic***     ***peptides***   were purified
     chromatographically from pepsin-treated human milk and identified as
     proteolytically generated fragments from the secretory component of the
     soluble polyimmunoglobulin receptor and lactoferrin; both of these
     proteins exhibit antimicrobial effects. Hydrolysis of the identified
       ***peptides***   with the gastrointestinal proteases pepsin, trypsin and
     chymotrypsin did not lead to the loss of   ***bifidogenic***   activity,
     indicating their potential function in vivo. Sequential comparison
     revealed a similar structural motif within the identified   ***peptides***
     . A correspondingly designed small   ***peptide***   (prebiotic
     lactoferrin-derived   ***peptide***  -I, PRELP-I) was found to stimulate
     the growth of bifidobacteria as effectively as the native   ***peptides***
```

. The combination of antimicrobial and bifidobacterial growth stimulatory activity in human milk proteins leads to highly specific compounds capable of regulating the microbial composition of infants' large intestine.

L2 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 2
ACCESSION NUMBER: 1995:533685 CAPLUS
DOCUMENT NUMBER: 122:313302
TITLE: Growth promotion of Bifidobacterium animalis by bovine milk proteose-peptone
AUTHOR(S): Etienne, L; Girardet, J. M.; Linden, G
CORPORATE SOURCE: Faculte des Sciences, Universite de Nancy I, Vandoeuvre-les-Nancy, 54506, Fr.
SOURCE: Lait (1994), 74(5), 313-23
CODEN: LAITAG; ISSN: 0023-7302
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The industrial strain Bifidobacterium animalis was used as assay organism to evaluate bifidobacterial growth-promoting activity of bovine milk proteose-peptone. This proved to be a better growth-promoting factor than bovine casein. The ***bifidogenic*** activity was found mainly in the proteose-peptone hydrophobic fraction contg. component 3, although the glycan moiety was a weak growth-promoter. Proteose-peptone digests by various proteolytic enzymes caused great enhancement of B animalis growth, particularly the Pronase digest. Size-exclusion chromatog. of digests showed that the more active ***peptides*** had a mol. mass distribution of 1000-5000 Da.

L2 ANSWER 3 OF 3 MEDLINE
ACCESSION NUMBER: 89260007 MEDLINE
DOCUMENT NUMBER: 89260007 PubMed ID: 2657187
TITLE: [The bifidogenic effect of breast milk. Theories and facts].
Die bifidogene Wirkung der Muttermilch. Theorien und Fakten.
AUTHOR: Heine W
SOURCE: KINDERARZTLICHE PRAXIS, (1989 Mar) 57 (3) 109-16. Ref: 36
Journal code: 0376356. ISSN: 0023-1495.
PUB. COUNTRY: GERMANY, EAST: German Democratic Republic
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: German
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198907
ENTRY DATE: Entered STN: 19900306
Last Updated on STN: 19900306
Entered Medline: 19890705
AB Human milk has the unique capability to originate and maintain a predominance of bifidobacteria in the large bowel of infants. There is evidence, that besides other protective factors this special microbiologic effect may have beneficial influences on the resistance against enteral infections as well as on a symbiotic utilization of some milk components. This is the reason, why there have been many attempts in past to imitate the ***bifidogenic*** effect in infant formulas. The different theories formed for the classification of this principle focus on either the low buffer capacity of mother's milk, the mutarotation of lactose and the existence of antimicrobial and bifidus growth factors, respectively. The ***bifidogenic*** principle is, however, in all probability not related to only one of these factors. It can rather be considered a complex of interacting factors, of which rapid gastric emptying due to the relatively high concentration of free amino acids and ***peptides*** , missing bacterial colonization of the small bowel, absence of antigenic effects of the food protein and low enterocyte regeneration may play an additional role. These aspects can be looked upon as a challenge for further research on mother's milk composition and on the metabolic effects of its constituents in future.

=> s bifidobacterium bifidum
L3 1836 BIFIDOBACTERIUM BIFIDUM

```
=> s l3 (p) peptide
L4          37 L3 (P) PEPTIDE

=> duplicate remove l4
DUPLICATE PREFERENCE IS 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA'
KEEP DUPLICATES FROM MORE THAN ONE FILE?  Y/(N):n
PROCESSING COMPLETED FOR L4
L5           12 DUPLICATE REMOVE L4 (25 DUPLICATES REMOVED)

=> d his

     (FILE 'HOME' ENTERED AT 16:39:02 ON 05 OCT 2002)

     FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT
     16:39:25 ON 05 OCT 2002
L1            8 S BIFIDOGENIC (P) PEPTIDE
L2            3 DUPLICATE REMOVE L1 (5 DUPLICATES REMOVED)
L3         1836 S BIFIDOBACTERIUM BIFIDUM
L4           37 S L3 (P) PEPTIDE
L5           12 DUPLICATE REMOVE L4 (25 DUPLICATES REMOVED)

=> s l5 not l2
L6          12 L5 NOT L2

=> d l6 1-12 ibib abs

L6   ANSWER 1 OF 12     MEDLINE
ACCESSION NUMBER:   2002053334     MEDLINE
DOCUMENT NUMBER:    21637146   PubMed ID: 11778873
TITLE:              High-efficiency synthesis of oligosaccharides with a
                    truncated beta-galactosidase from Bifidobacterium bifidum.
AUTHOR:             Jorgensen F; Hansen O C; Stougaard P
CORPORATE SOURCE:   Department of Enzyme Technology, Biotechnological
                    Institute, Horsholm, Denmark.
SOURCE:             APPLIED MICROBIOLOGY AND BIOTECHNOLOGY, (2001 Dec) 57 (5-6)
                    647-52.
                    Journal code: 8406612. ISSN: 0175-7598.
PUB. COUNTRY:       Germany: Germany, Federal Republic of
DOCUMENT TYPE:      Journal; Article; (JOURNAL ARTICLE)
LANGUAGE:           English
FILE SEGMENT:       Priority Journals
ENTRY MONTH:        200207
ENTRY DATE:         Entered STN: 20020125
                    Last Updated on STN: 20020717
                    Entered Medline: 20020716
AB   An exceptionally large beta-galactosidase, BIF3, with a subunit molecular
     mass of 188 kDa (1,752 amino acid residues) was recently isolated from
       ***Bifidobacterium***     ***bifidum***   DSM20215 [Moller et al. (2001)
     Appl Environ Microbiol 67:2276-2283]. The BIF3 polypeptide comprises a
     signal   ***peptide***   followed by an N-terminal beta-galactosidase
     region and a C-terminal galactose-binding motif. We have investigated the
     functional importance of the C-terminal part of the BIF3 sequence by
     deletion mutagenesis and expression of truncated enzyme variants in
     Escherichia coli. Deletion of approximately 580 amino acid residues from
     the C-terminal end converted the enzyme from a normal, hydrolytic
     beta-galactosidase into a highly efficient, transgalactosylating enzyme.
     Quantitative analysis showed that the truncated beta-galactosidase
     utilised approximately 90% of the reacted lactose for the production of
     galacto-oligosaccharides, while hydrolysis constituted a 10% side
     reaction. This 9:1 ratio of transgalactosylation to hydrolysis was
     maintained at lactose concentrations ranging from 10% to 40%, implying
     that the truncated beta-galactosidase behaved as a "true"
     transgalactosylase even at low lactose concentrations.

L6   ANSWER 2 OF 12     MEDLINE
ACCESSION NUMBER:   2001122497     MEDLINE
DOCUMENT NUMBER:    21012316   PubMed ID: 11129579
TITLE:              Purification and identification of a growth-stimulating
                      ***peptide***   for   ***Bifidobacterium***
                      ***bifidum***   from natural rubber serum powder.
AUTHOR:             Etoh S; Asamura K; Obu A; Sonomoto K; Ishizaki A
CORPORATE SOURCE:   Division of Bioscience and Biotechnology, Graduate School
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of Bioresource and Bioenvironmental Sciences, Kyushu University, Fukuoka, Japan.
SOURCE: BIOSCIENCE, BIOTECHNOLOGY, AND BIOCHEMISTRY, (2000 Oct) 64 (10) 2083-8.
Journal code: 9205717. ISSN: 0916-8451.
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200102
ENTRY DATE: Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010222

AB Natural rubber serum powder, which is a by-product obtained in the production of latex rubber, has a strong growth-stimulating activity for ***Bifidobacterium*** ***bifidum*** JCM 1254. The retained fraction obtained by ultrafiltration (molecular weight cutoff 1000) showed a growth-stimulating activity in a dose-dependent manner on B12 assay medium with ammonium sulfate. One of the growth stimulators was purified from the retained fraction by acetone precipitation, solid-phase extraction with a hydrophobic pretreatment column, and multistage reversed-phase HPLC. An increase of 53-fold in the specific activity, and a recovery of 1.3% were obtained. The amino acid composition and N-terminal sequence analysis of this growth stimulator provided the structure of Ala-Thr-Pro-Glu-Lys-Glu-Glu-Pro-Thr-Ala. The molecular mass was 1075 by MALDI-TOF MS analysis. These results showed that this growth stimulator was a decapeptide with the sequence shown above. This is the first report that clarified the structure of an active ***peptide*** for the growth of Bifidobacterium.

L6 ANSWER 3 OF 12 MEDLINE
ACCESSION NUMBER: 1999290026 MEDLINE
DOCUMENT NUMBER: 99290026 PubMed ID: 10361675
TITLE: Complementary effects of bifidogenic growth stimulators and ammonium sulfate in natural rubber serum powder on Bifidobacterium bifidum.
AUTHOR: Etoh S; Sonomoto K; Ishizaki A
CORPORATE SOURCE: Department of Food Science and Technology, Faculty of Agriculture, Kyushu University, Fukuoka, Japan.
SOURCE: BIOSCIENCE, BIOTECHNOLOGY, AND BIOCHEMISTRY, (1999 Apr) 63 (4) 627-31.
Journal code: 9205717. ISSN: 0916-8451.
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199907
ENTRY DATE: Entered STN: 19990806
Last Updated on STN: 19990806
Entered Medline: 19990726

AB Natural rubber serum powder, rich in crude protein and carbohydrates, had a strong growth-stimulating activity for ***Bifidobacterium*** ***bifidum*** JCM 1254, which was unable to grow in a fully synthetic medium, B12 assay medium. Natural rubber serum powder was fractionated by ultrafiltration (molecular weight cutoff 1000). The active ultrafiltrate was further concentrated and desalted with an adsorptive microconcentrator, which adsorbs virtually all amino acids and ***peptides*** . Through this purification step, it was found that the adsorbed fraction obtained did not stimulate growth independently but acted complementarily with a small amount of ammonium sulfate. The adsorbed fraction was subsequently analyzed on reversed-phase high pressure liquid chromatography, and the activities of the eluates were measured on B12 assay medium with ammonium sulfate. Consequently, it was proved that several peptidic ingredients in the adsorbed fraction increased the growth of B. bifidum.

L6 ANSWER 4 OF 12 MEDLINE
ACCESSION NUMBER: 96058574 MEDLINE
DOCUMENT NUMBER: 96058574 PubMed ID: 7590202
TITLE: [Antimutagenic action of bacterial culture liquid on mutagenesis induced by 2-nitrofluorene in Salmonella typhimurium strains].

Antimutagennoe deistvie kul'tural'noi zhidkosti bakterii na mutagenez [redacted]ntammov Salmonella typhimurium, indutsirovannyi 2-nitrofluorenom.
AUTHOR: Vorob'eva L I; Cherdyntseva T A; Abilev S K
SOURCE: GENETIKA, (1995 Jul) 31 (7) 901-7.
Journal code: 0047354. ISSN: 0016-6758.
PUB. COUNTRY: RUSSIA: Russian Federation
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Russian
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199512
ENTRY DATE: Entered STN: 19960124
Last Updated on STN: 19960124
Entered Medline: 19951214

AB It was shown that cell extracts and cells of Streptococcus faecalis decrease the mutagenic effect of 2-nitrofluorene in Salmonella typhimurium strain TA1538 by 73 and 48%, respectively. Cell extracts and cells of ***Bifidobacterium*** ***bifidum*** and Propionibacterium shermanii exhibited weak antimutagenic activity. No antimutagenic effect was found in Escherichia coli AB1157, Lactobacillus delbrueckii, or Streptococcus thermophilus. Antimutageneicity of the cell extract of Str. faecalis is both associated with extracellular factors interacting with 2-nitrofluorene (desmutagenesis) and with factors affecting intracellular processes of mutagen biotransformation and mutation induction. Thiol compounds produced by growing Str. faecalis may be desmutagenic factors. A relatively heat-stable substance or substances of a ***peptide*** nature with a MM less than 12 kDa are antimutagenic factors affecting intracellular processes of mutagenesis.

L6 ANSWER 5 OF 12 MEDLINE
ACCESSION NUMBER: 93146928 MEDLINE
DOCUMENT NUMBER: 93146928 PubMed ID: 1490908
TITLE: Antibacterial spectrum of lactoferricin B, a potent bactericidal peptide derived from the N-terminal region of bovine lactoferrin.
AUTHOR: Bellamy W; Takase M; Wakabayashi H; Kawase K; Tomita M
CORPORATE SOURCE: Nutritional Science Laboratory, Morinaga Milk Industry Co. Ltd, Zama City, Japan.
SOURCE: JOURNAL OF APPLIED BACTERIOLOGY, (1992 Dec) 73 (6) 472-9.
Journal code: 7503050. ISSN: 0021-8847.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199303
ENTRY DATE: Entered STN: 19930312
Last Updated on STN: 19930312
Entered Medline: 19930304

AB A physiologically diverse range of Gram-positive and Gram-negative bacteria was found to be susceptible to inhibition and inactivation by lactoferricin B, a ***peptide*** produced by gastric pepsin digestion of bovine lactoferrin. The list of susceptible organisms includes Escherichia coli, Salmonella enteritidis, Klebsiella pneumoniae, Proteus vulgaris, Yersinia enterocolitica, Pseudomonas aeruginosa, Campylobacter jejuni, Staphylococcus aureus, Streptococcus mutans, Corynebacterium diphtheriae, Listeria monocytogenes and Clostridium perfringens. Concentrations of lactoferricin B required to cause complete inhibition of growth varied within the range of 0.3 to 150 micrograms/ml, depending on the strain and the culture medium used. The ***peptide*** showed activity against E. coli O111 over the range of pH 5.5 to 7.5 and was most effective under slightly alkaline conditions. Its antibacterial effectiveness was reduced in the presence of Na+, K+, Mg2+ or Ca2+ ions, or in the presence of various buffer salts. Lactoferricin B was lethal, causing a rapid loss of colony-forming capability in most of the species tested. Pseudomonas fluorescens, Enterococcus faecalis and ***Bifidobacterium*** ***bifidum*** strains were highly resistant to this ***peptide*** .

L6 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:724916 CAPLUS
TITLE: Peptidase activity of four yeast species frequently encountered in dairy products-comparison with several

dairy bacteria
AUTHOR(S): Klein[redacted]athalie; Zourari, Athena; Lort[redacted] Sylvie
CORPORATE SOURCE: DSM Food Specialties B.V., P.O. Box 1, TheDelft, 2600 MA
SOURCE: International Dairy Journal (2002), 12(10), 853-861
CODEN: IDAJE6; ISSN: 0958-6946
PUBLISHER: Elsevier Science B.V
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In this work, peptidases of four yeast species frequently encountered in dairy products, i.e. Kluyveromyces lactis, Saccharomyces cerevisiae, Debaryomyces hansenii and Pichia anomala, were investigated with respect to activity towards .beta.-casein-derived ***peptides*** and compared with the activity of six bacterial species, i.e. Lactobacillus helveticus, Lactobacillus plantarum, Leuconostoc lactis, Pediococcus pentosaceus, ***Bifidobacterium*** ***bifidum*** and Brevibacterium linens. Cell-free exts. (CFE) obtained by mech. disruption were standardised in terms of protein content, then added to a .beta.-casein hydrolyzate. The free amino acid release at 24.degree.C and pH 5.7 was monitored over a period of 168 h. Free amino acid and ***peptide*** profiles were detd. by chromatog. The yeasts tested exhibited a higher peptidase activity than all bacterial species except Lb. helveticus, which had comparable activity. Yeast CFE were less efficient in proline release compared with Lb. helveticus, but more efficient at degrading .beta.-casein putative phosphorylated ***peptides*** . These results support the proposition that yeasts can significantly influence proteolysis in cheese.

L6 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:234483 CAPLUS
TITLE: Bovine lactoferrin receptor proteins on the Bifidobacterium bifidum
AUTHOR(S): Kim, W.-S.; Morita, H.; Tanaka, T.; Kumura, H.; Shimazaki, K.
CORPORATE SOURCE: Dairy Science Laboratory, Graduate School of Agriculture, Hokkaido University, Sapporo, 060-8589, Japan
SOURCE: Biochemistry and Cell Biology (2002), 80(1), 157
CODEN: BCBIEQ; ISSN: 0829-8211
PUBLISHER: National Research Council of Canada
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Bifidobacteria are anaerobic, rod shaped, gram-pos. bacteria and are normal inhabitants of the human and other animals. Bifidobacteria like the lactic acid bacteria, play very beneficial roles to the health of mankind. As a natural predominant microflora in the intestinal tract, bifidobacteria have been widely recognized to express many activities such as resistance to enteropathogens, redn. of cholesterol in serum, amelioration of diarrhea or constipation, activation of immune systems, and anticarcinogenic activity. Bifidobacteria require a growth-stimulating factor and some kind of sugars, vitamins, nucleic acids, amino acids, ***peptides*** , etc. Some milk proteins have the potential to produce ***peptides*** that stimulate the growth of bifidobacteria. Lactoferrin is an iron binding glycoprotein found in milk, and various mucosal secretions has been shown to inhibit the growth of various bacterial pathogens and to promote the growth of anaerobic bacteria of the genus Bifidobacterium in vitro. In this study, we found the lactoferrin binding protein in ***Bifidobacterium*** ***bifidum*** and performed expts. to study whether the interaction is specific or non-specific. The results show that the lactoferrin and B. bifidum interaction seems to be specific, and the mol. wt. of bovine lactoferrin receptor was estd. to be 69 kDa by SDS-PAGE.

L6 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:906768 CAPLUS
DOCUMENT NUMBER: 136:164004
TITLE: Antibacterial activity associated with Lactobacillus gasseri ATCC 9857 from the human female genitourinary tract
AUTHOR(S): Charteris, William P.; Kelly, Phillip M.; Morelli, Lorenzo; Collins, J. Kevin
CORPORATE SOURCE: SET Consultants Ltd., Cork, Ire.

SOURCE: World Journal of Microbiology & Biotechnology (2001), 17(6), 615-625
CODEN: WJMBEY; ISSN: 0959-3993
PUBLISHER: Kluwer Academic Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The 10-fold concd. spent MRS culture cell-free supernatant conc. [(cCFS)] of the human female genitourinary tract isolate Lactobacillus gasseri ATCC 9857 was shown to exhibit antibacterial activity towards gram-pos. sporogenous and asporogenous fermentative eubacteria in liq. and on solid media under conditions that eliminated the activity of lactic acid (.beta.-glycerophosphate) and hydrogen peroxide (catalase). The antibacterial activity of the cCFS was characterized by automated turbidimetry (Bioscreen) and non-linear regression anal. (Gompertz model) using MRS broth cultures of the indicator strain L. acidophilus ATCC 11975. It exhibited a bactericidal mode of action, sensitivity to trypsin and proteinase K, partial sensitivity to pepsin and Pronase E. partial heat stability at 121 .degree.C for 15 min, and retained significantly more activity following exposure to pH 3.0 and 5.0 compared with pH 7.2 and 9.0. The inhibitory spectrum included a wide range of Lactobacillus species, ***Bifidobacterium*** ***bifidum*** , B. infantis and B. catenulatum, Lactococcus cremoris, Leuconostoc cremoris, Pediococcus pentosaceus, Bacillus cereus, Clostridium tyrobutyricum, C. pasteurianum, C. sporogenes, Staphylococcus carnosus, and Enterococcus faecalis. Although partial inhibition of Escherichia coli ATCC 25922 by cCFS was obsd. in liq. medium, inhibition of freshly isolated human uropathogenic Escherichia coli strains could not be demonstrated on TSB agar plates by agar well diffusion. Following partial resoln. by gel permeation FPLC on Superose-12, the fractionated cCFS was shown to comprise at least two inhibitory ***peptides*** (3.05 and 5.27 kDa) as well as aggregated inhibitory ***peptide*** material (21.65, 41.50, 81.20, and 120.90 kDa). The 3.05 kDa ***peptide*** , designated gassericin D, inhibited L. acidophilus strains ATCC 11975 and ACA-DC 241. The 5.27 kDa ***peptide*** , designated gassericin C, inhibited L. gasseri strain UCSC LF221Snb and E. faecalis DPC 3319. The aggregated 21.65 kDa ***peptide*** material strongly inhibited L. acidophilus ATCC 11975 and weakly inhibited Listeria inocua DPC 3306. The aggregated 41.50 kDa ***peptide*** material strongly inhibited B. cereus DPC 3316 and weakly inhibited L. acidophilus ACA-DC 241. The ability of L. gasseri ATCC 9857 to produce bacteriocin-like activity may be of importance in the biopreservation of nutraceuticals and in the management of female genitourinary and gastrointestinal tract infections involving En. faecalis.

REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 9 OF 12 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:838492 CAPLUS
DOCUMENT NUMBER: 136:131375
TITLE: A decapeptide, growth stimulator identified from natural rubber serum powder for Bifidobacterium bifidum
AUTHOR(S): Etoh, Shin-Ichi; Asamura, Kayoko; Obu, Azumi; Sonomoto, Kenji; Ishizaki, Ayaaki
CORPORATE SOURCE: Laboratory of Microbial Technology, Division of Microbial Science and Technology, Department of Bioscience and Biotechnology, Faculty of Agriculture, Kyushu University, Fukuoka, 812-8581, Japan
SOURCE: Journal of the Faculty of Agriculture, Kyushu University (2000), 45(1), 171-181
CODEN: JFAKAU; ISSN: 0023-6152
PUBLISHER: Kyushu University, Faculty of Agriculture
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Natural rubber serum powder, which is byproduct obtained in the prodn. of latex rubber, has a strong growth-stimulating activity for ***Bifidobacterium*** ***bifidum*** JCM 1254. The retained fraction obtained by ultrafiltration (mol. wt. cutoff 1000) showed a growth-stimulating activity in a dose-dependent manner on B12 assay medium with ammonium sulfate. One of the growth stimulators was purified from the retained fraction by acetone pptn., solid-phase extn. with a hydrophobic pretreatment column, and multi-stage reversed-phase HPLC. An

increase of 53-fold in the specific activity, and a recovery of 1.3% were obtained. The amino acid compn. and N-terminal sequence analyses of this growth stimulator provided the structure of Ala-Thr-Pro-Glu-Lys-Glu-Glu-Pro-Thr-Ala. The mol. mass was 1075 by MALDI-TOF MS anal. These results showed that this growth stimulator was a decapeptide with the sequence shown above. This is the first report that clarified the structure of an active ***peptide*** for the growth of Bifidobacterium.
REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:203275 CAPLUS
DOCUMENT NUMBER: 131:41925
TITLE: Survey of growth stimulators in natural rubber serum powder for Bifidobacterium bifidum
AUTHOR(S): Etoh, Shin-ichi; Sonomoto, Kenji; Ishizaki, Ayaaki
CORPORATE SOURCE: Laboratory of Microbial Technology, Department of Food Science and Technology, Faculty of Agriculture, Kyushu University, Fukuoka, 812-8581, Japan
SOURCE: Journal of the Faculty of Agriculture, Kyushu University (1999), 43(3-4), 451-460
CODEN: JFAKAU; ISSN: 0023-6152
PUBLISHER: Kyushu University, Faculty of Agriculture
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Natural rubber serum powder, rich in crude protein and carbohydrates, had a strong growth-stimulating activity for ***Bifidobacterium*** ***bifidum*** , which was unable to grow in a fully synthetic medium, B12 assay medium. Natural rubber serum powder was fractionated by ultrafiltration (mol. wt. cut off 1000). The active ultrafiltrate was furthermore concd. and desalted with an adsorptive microconcentrator, which adsorbs virtually all amino acids and ***peptides*** . Through this purifn. step, it was found that the adsorbed fraction obtained could not exhibit a growth-stimulating activity independently but acted complementarily with ammonium sulfate contaminated in the ultrafiltrate. Furthermore, ammonium sulfate could be substituted with other ammonium salts, ammonium chloride and ammonium nitrate. The adsorbed fraction was subsequently analyzed on reversed-phase high performance liq. chromatog., and the activities of the eluates were measured on B12 assay medium supplemented with ammonium sulfate. Consequently, it was proved that several ingredients in the adsorbed fraction enhanced the growth of B. bifidum.
REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1993:120747 CAPLUS
DOCUMENT NUMBER: 118:120747
TITLE: Use of enzymic hydrolyzates of casein for cultivation of bifidobacteria
AUTHOR(S): Proulx, M.; Gautheir, S. F.; Roy, D.
CORPORATE SOURCE: Cent. Rech. Sci. Technol. Lait, Univ. Laval, Ste-Foy, QC, G1K 7P4, Can.
SOURCE: Lait (1992), 72(4), 393-404
CODEN: LAITAG; ISSN: 0023-7302
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The growth-promotional activity of casein hydrolyzates was tested for 5 species of the genus Bifidobacterium. Alcalase, chymotrypsin and trypsin were used to produce the casein hydrolyzates which had been sepd. by ultrafiltration on a hollow-fiber membrane (mol. wt. cut-off: 30,000 Da). Comparison of 3 semisynthetic or synthetic media for cultivation of bifidobacteria indicated that ***peptides*** might be a preferable source of nitrogen to free amino acids. Garches and Norris media were selected to compare the efficiency of the different ultrafiltered hydrolyzates to a mix of free amino acids (Garches) and to a com. casein hydrolyzate (Norris). After 48 h of growth, no difference appeared in terms of acidity between the ultrafiltered hydrolyzates for the species ***Bifidobacterium*** ***bifidum*** var pennsylvanicus and B. adolescentis. B. infantis showed a large flexibility regarding nitrogen requirement. In Garches medium, significant growth-promotional activity was obtained for the species B. breve and B. longum. In general, in the

Norris medium com. hydrolyzate (N-Z Case) allows better growth of the 5 bacterial species tested [redacted] n ultrafiltered hydrolyzates. [redacted] stimulating effect may be obsd. with ultrafiltered hydrolyzates during growth of B. infantis and B. breve.

L6 ANSWER 12 OF 12 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1991:135413 BIOSIS
DOCUMENT NUMBER: BA91:71953
TITLE: BOVINE MILK KAPPA CASEIN TRYPSIN DIGEST IS A GROWTH ENHANCER FOR THE GENUS BIFIDOBACTERIUM.
AUTHOR(S): POCH M; BEZKOROVAINY A
CORPORATE SOURCE: DEP. BIOCHEM., RUSH-PRESBYTERIAN-ST. LUKE'S MED. CENTER, CHICAGO, ILL. 60612.
SOURCE: J AGRIC FOOD CHEM, (1991) 39 (1), 73-77.
CODEN: JAFCAU. ISSN: 0021-8561.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB ***Bifidobacterium*** ***bifidum*** and Bifidobacterium longum, both isolated from infant feces, were used as assay organisms to evaluate bifidobacterial growth-promoting activities of bovine milk casein components. .kappa.-Casein was found to be the most potent growth enhancer when digested by trypsin. Its glycomacropeptide had no activity whatever. Activity was lost when the disulfide bones in .kappa.-casein were modified by performic acid oxidation, reduction-alkylation, dinitrophenylation, or combination in a mixed disulfide linkage with 2-mercaptopyridine. Synthetic .kappa.-casein ***peptides*** containing cysteine or other cysteine compounds could not substitute for the .kappa.-casein digest. Similar behavior was observed with yeast extract and hog gastric mucin.

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(FILE 'HOME' ENTERED AT 16:39:02 ON 05 OCT 2002)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT 16:39:25 ON 05 OCT 2002
L1 8 S BIFIDOGENIC (P) PEPTIDE
L2 3 DUPLICATE REMOVE L1 (5 DUPLICATES REMOVED)
L3 1836 S BIFIDOBACTERIUM BIFIDUM
L4 37 S L3 (P) PEPTIDE
L5 12 DUPLICATE REMOVE L4 (25 DUPLICATES REMOVED)
L6 12 S L5 NOT L2

=> log y

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